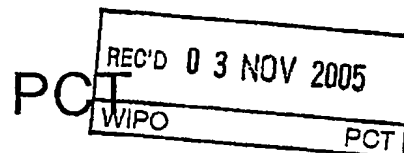


# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY



To:

see form PCT/ISA/220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/L2005/000801

International filing date (day/month/year)  
26.07.2005

Priority date (day/month/year)  
25.01.2005

International Patent Classification (IPC) or both national classification and IPC  
B01J19/00, B01L3/00, G01N33/48

Applicant  
MOLECULAR CYTOMICS LTD.

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IL2005/000801

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

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1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IL2005/000801

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-37
Inventive step (IS)	Yes: Claims	
	No: Claims	1-37
Industrial applicability (IA)	Yes: Claims	1-37
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Re Item V.**

**1. INDEPENDENT CLAIMS 1, 9, 15 AND 32**

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-37 is not new in the sense of Article 33(2) PCT. At the current stage of the proceedings, reference is made in particularly to the following:

- 1.1 Document D1 (WO-A-2004/113492, Applicant's own disclosure) describes a chip-device (a "picowell bearing device") having any array of wells being suitable for capturing a single cell to each well. Furthermore, fluid channels and a cover slip are disclosed (see in particularly claims 1, 75, 76, 79, 81, 88 and 105). D1 takes away the novelty of the independent claims 1, 9 and 15.
- 1.2 Document D2 (WO-A-01/35071, Applicant's own disclosure) describes a cell sorting apparatus having the features of the present claims 1, 9 and 15 (see D2, in particularly claims 1-8, description page 26 line 16ff). D2 therefore deprives these present independent claims of novelty.
- 1.3 Document D3 (WO-A-03/056330) discloses a cell sorting device comprising a carrier with arrays, micro channels, a cover on top of the array and a fluid dispenser (page 7 line 14 to page 12 line 19, figures 1-3, claims). The disclosure of D3 takes away the novelty of the independent claims 1, 9, 15 and 32. In respect of the at present unspecified automatic control system in claim 32 (see § 1.4 above), it is pointed out that the cell stream is automatically controlled via a magnetic or electric field according to D3 (page 12 § 3).
- 1.4 D4 (WO-A-02/26114) describes a cellular array in communication with micro channels, a cover and a dispensing means, the flow being controlled (page 6 line 3 to page 10 line 6, claims, figures). D4 renders the subject matter of the independent claims 1, 9 and 15 not novel.
- 1.5 According to D5 (US-A-6,377,721) a device for studying individual cells is known, said device comprising a carrier with microwells and micro channels. D5 therefore takes away the novelty of the independent claims 1 and 9.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IL2005/000801

- 1.6 In D6 (WO-A-03/011451) a device for studying individual cells is disclosed, which comprises the features of the independent claim 1 (see page 7 line 3 to page 11 § 1, page 17 § 3 to page 18 § 2 and the figures). The subject-matter claimed by the present claim 1 is therefore not novel.
- 1.7 D7 (WO-A-063034) describes an automated system for loading individual cells into discrete locations for study. This document discloses the features of the present independent claims 1, 9, 15 and 32 except for the lid as described by claims 9, 15 and 32 (see in particular page 13 line 5 to page 15 line 27, page 17 line 8-19). D7 therefore deprives the independent claim 1 of novelty and the remaining independent claims 9, 15 and 32 of inventive step, since the addition of a lid, which is as such described in several of the documents cited in this procedure, does not represent an unexpected effect to the skilled person.
2. **DEPENDENT CLAIMS 2-8, 10-14, 16-31, and 33-37**  
Dependent claims 2-8, 10-14, 16-31, 33-37 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IL2005/000801

**Re Item VII.**

- 1 The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art to be placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features to be included in the characterising part (Rule 6.3(b)(ii) PCT).
- 2 The Applicant's attention is drawn to the fact that the reference to the prior art IL04/00192 in the description (for example on pages 6-8, 21, 31 and 38) is incorrect. He is requested to verify whether IL04/00194 is intended.
- 3 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D3-D7 is not mentioned in the description, nor are these documents identified therein.

**Re Item VIII.**

- 1 The application does not meet the requirements of Article 6 PCT, because the independent claims 1, 9, 15 and 32 are not clear. Said claims refer to a "picowell bearing device"; however the term "picowell" is unclear and leaves the reader in doubt as to the meaning of the technical feature to which it refers. Nevertheless, according to the description (page 3 line 16-17), "picowell" encompasses all known physical variations of microwells. Moreover, the term "picowell" has no well-recognised meaning and for that reason also leaves the reader in doubt as to the meaning of the technical feature to which it refers.
- 2 Claim 1 defines the scope of the claim by "consisting essentially of no more than four components", said expression being vague. Furthermore, the vague and imprecise statements in the description on page 16 (line 22-27) and page 39 (line 28) to page 40 (line 11) imply that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them.
- 3 Although the independent claims 1, 9, 15 and 32 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
- 4 The terms "functionally associated" and "substantially automatically" in the independent claim 32 are vague and leave the reader in doubt as to the meaning of the technical feature to which it refers. The independent claim 32 furthermore refers to a control system which is as such not further specified in terms of what to control and how. The application therefore does not meet the requirements of Article 6 PCT. (For the sake of completeness, the Applicant's attention is also drawn to the clerical error "auomatically" in claim 32, last line).